3-15-1999

DDASaccident209

Humanitarian Demining Accident and Incident Database
AID

DDAS Accident Report

Accident details

Report date: 15/05/2006

Accident number: 209

Accident time: 11:15

Accident Date: 15/03/1999

Where it occurred: Grad, Orasca, Una Santon Canton

Country: Bosnia Herzegovina

Primary cause: Management/control inadequacy (?)

Secondary cause: Inadequate training (?)

Class: Survey accident

Date of main report: 17/03/1999

ID original source: WL/RB/HG/JH

Name of source: BiH MAC

Organisation: Name removed

Mine/device: AP blast (unrecorded)

Ground condition: dry/dusty
grass/grazing area
sparse trees

Date record created: 15/02/2004

Date last modified: 15/02/2004

No of victims: 1

No of documents: 2

Map details

Longitude:

Latitude:

Alt. coord. system: GR: WK 840 427

Coordinates fixed by:

Map east:

Map north:

Map scale: WGS 84 Kulen Vakuf

Map series: M709

Map edition: 9 DMA

Map sheet: 2384 II

Map name:

Accident Notes

inadequate equipment (?)

inadequate communications (?)

inadequate medical provision (?)

inadequate training (?)

protective equipment not worn (?)

Accident report

A Board of Inquiry report was ordered by the country MAC and carried out by representatives of the regional MACs and ex-pat Technical Advisors. The report was made available along with a "Lessons Learned document from the MAC, and the following summarises their content.

The accident involved a "two man Community Liaison Team [CLT] who were collecting information about a suspect area of ground as part of a follow up to a request from" the local community. It seems likely that the team members were drawn from a local commercial demining company and their activity funded by an international NGO.

In this case, the CLT had received information that an area near the village of Orsaca was believed by local people to be mined. A visit to the area was scheduled as part of the CLT's weekly plan of work. The workplan was approved and the visit accepted as an appropriate part of the team's activities.

[The picture above was taken during the acident investigation.]

The area where the accident occurred "was described as rough hillside and pastureland" with a sparse covering of small trees and bushes. The grass had been close cropped by grazing animals "and by the activities of the local population". A photograph showed cropped grass and scrubby bush. The ground was dry. The detonation occurred about 15m from an unsurfaced track and about 2 km from the nearest tarred road. There were lines of defensive trenches near the area, the closest being 30m from the accident site. A previous demining operation had cleared 13,000 square metres in the area in 1997 on the opposite side of the track about 100m from the accident site. A mortar and two PMA-2s were found during this clearance.

A mine accident occurred in 1996 about 200m North of the accident when an IFOR vehicle detonated an AP mine without injury.

This task was part of routine "community Liaison" - it had not been set a demining priority. The work of the CLT teams was monitored on an occasional basis.

Community Liaison Teams (CLTs) were issued a portable phone in "areas where there is an operational requirement and when a mobile telephone is available". The team in this accident did not have one.

The team arrived in the area at 10:45. The man supposed to guide them did not arrive, but another person substituted. They drove along an unsurfaced track, then parked and walked on until they could see the remaining minefield marking of a previously cleared area on the other side of the track. They had walked about 15m off the track towards the suspect area before the victim (who was the Team Leader and third in line) stepped on a mine.

"The team was collecting information by talking to the local community and by visiting areas of suspect ground as part of a process of assessment to decide whether the area warranted the deployment of mine clearance teams. Mines had been found on adjacent areas. The team considered that the ground where the detonation occurred was an area with no obvious risk because it was in use by the local community. The team had no information that there were any mines on that side of the track. The team were not using demining tools or equipment

and was not deployed on demining operations. Injuries sustained by one person led to the amputation of his right foot." This occurred at 11:15 [or 11:25, conflict in documents].

After the detonation the victim was helped to the nearest track by his partner and the local guide. The partner "stemmed bleeding from the wound by using [the victim's] bootlace as a tourniquet around his lower leg". The team did not carry medical equipment and were not trained as medics. Their car had a first aid kit but no trauma kit. The victim was received into Bihac hospital at about 12:15 hours.

Both team members were experienced in "mine action activities" and trained in first aid. Neither had been trained as a deminer, surveyor or medic. The other team member gave first aid and drove the victim to Bihac hospital - "about 30 minutes drive from the scene". The casualty was conscious throughout. The vehicle they used was a HI Peugeot 205 with a VHF radio. The radio was used "immediately after the incident" to contact HQ . "The casualty received treatment in Bihac hospital. His injuries resulted in the amputation of his right foot, above the ankle, but below the knee."

The "mine involved was probably an anti-personnel blast mine" (investigators were unable to confirm the mine type because of snow on the ground. No other mines were found between the track and the crater (in a subsequent clearance that was unfinished when the report was compiled).

The victim was wearing "lightweight hiking boots". Describing his right boot, a document states that "the sole and a large part of the boot's upper was damaged and torn away".

Conclusions

The investigation concluded that although the CLT was employed as part of a mines awareness programme, on the day of the accident they were carrying out what amounted to a "Level 1 survey". They had assessed the ground on which they walked as "being of no obvious risk". They found that neither member of the team had been "formally trained" to "carry out survey tasks" and they were "not properly equipped", although they were experienced.

Recommendations

The investigators recommended that a clear distinction should be "made between Minefield Survey operations and community liaison as part of Mine Awareness activity. They recommended that personnel carrying out Level One Survey operations should report to an appropriate office, and that Mine Awareness Co-ordination should not task or co-ordinate Survey operations so that Teams would be deployed on Level 1 Survey as part of a planned "tasking for Survey Operations". They continued, "In order to conduct Level One minefield Surveys and to be able to properly carry out the tasks stated in their job description, personnel should be trained and equipped accordingly."

"…to ensure that all known information is made available to Survey teams, Minefield Surveys should be co-ordinated in co-operation with the MAC and any other organisation that may have information about mines in the area." Reliance should not be placed on a single source of unconfirmed information.

The country "MAC should write a minimum training and qualification standard for personnel involved in Level 1 Surveys. This standard should be incorporated into MAC SOP No 1 - training, and be made available to the demining community. When teams are deployed to carry out Level 1 Surveys, it should be as part of a planned tasking for Survey Operations." Personnel deployed to carry out Level 1 Surveys should then work in accordance with the country MAC's relevant SOP or with their own accredited SOPs. Personnel deployed on Level 1 Survey operations should not walk off known clear areas.

Personnel should be trained and equipped appropriately to carry out the tasks stated in their job description [in this case including Survey - as indicated in a CLT Job Description on file]. The investigators added that personnel deployed on Level 1 Survey operations, or on minefield reconnaissance or related or similar operations should wear blast resistant boots."

Victim Report

Victim number:	269	**Name:**	**Name removed**
Age:		**Gender:**	Male
Status:	surveyor	**Fit for work:**	not known
Compensation:	not made available	**Time to hospital:**	1 hour
Protection issued:	None	**Protection used:**	none

Summary of injuries:

INJURIES

minor Face

minor Head

AMPUTATION/LOSS

Leg Below knee

COMMENT

See medical report.

Medical report

A brief medical report was in the Accident file. The following summarises its content.

The victim received "extensive bone and tissue injury to his right foot. During treatment… it was decided to amputate his foot approximately 15cm below the knee". The victim injured his "face and forehead" when he fell over onto a rock after the mine detonated under him.

Analysis

The primary cause of this accident is listed as a *"Management/control inadequacy"* because the victims were sent to do a job without appropriate equipment and without adequate training. The secondary cause is listed as *"Inadequate training"* because the work of Survey Level 1 was a part of their job description for which they were not appropriately prepared.

The investigators' recommendation to supply blast boots was "premature". Trials of blast boots in the USA during 1999 (reported in 2000) found that there was little advantage in wearing any of the currently available boots when stepping on a charge the size of that in a PMA-3 and no advantage with a charge the size of that in a PMA-2. All of the boots limit mobility over rough or overgrown ground (some worse than others) and could make the wearer clumsy. Assessing the balance between the PMA-2 and PMA-3 risk in this theatre is especially difficult because a similar number of accidents have occurred with both mines.

Related papers

Other documents in the Accident file included a letter saying that all recommendations have been implemented and that "Blast boots have been ordered".

A letter from to the group's French HQ reported that the victim stood on an AP while "collecting information from a member of the community who was taking them to an area

which was possibly mined". Following the incident, the HQ offered psychological counselling facilities for any of the group "members who wished to have it".

Also in the Accident file was a sketch map of the site and a detailed map of the area, photographs of the general area (showing close grass and scrubby bush) a photograph of the kind of boot worn (a thick soled hiking boot with part canvas upper), a job description including a requirement to conduct "Level 1 Surveys", statements of witnesses (not translated), and a report of the previous clearance in the area.